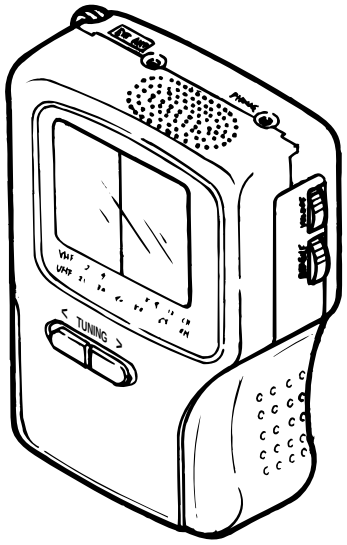
SERVICE MANUAL
& PARTS LIST (without price)

TV-1800C (PAL B / G,H)
TV-1800D (PAL I)
TV-1800I (PAL B / G)
TV-1800N (PAL B / G,H)
(KX-523)

DEC. 1996



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CASIO®

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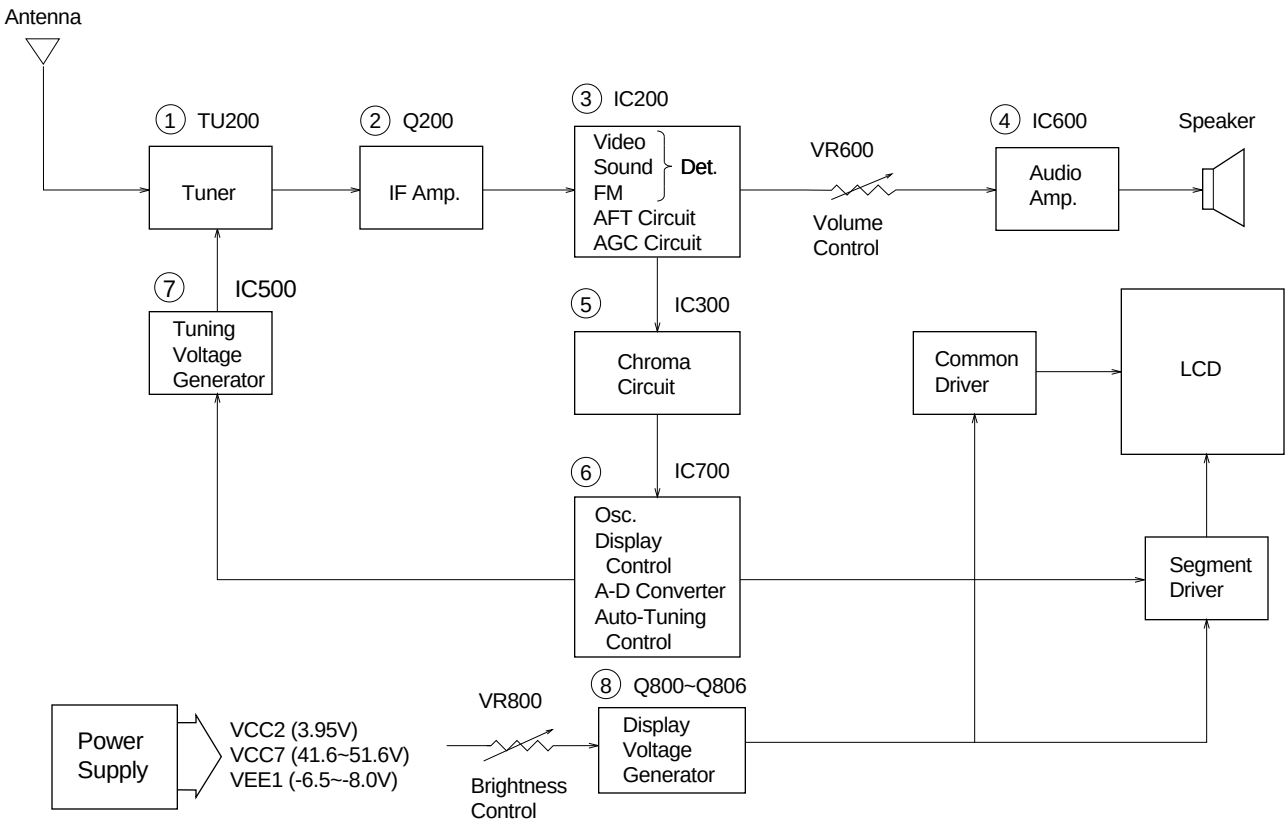
SPECIFICATIONS

Item	Specification
1. Power voltage	DC 6.0 V
2. Power consumption	Approx. 3.6 W
3. Current consumption	Approx. 600 mA
4. Battery life (with alkaline batteries)	Approx. 2.5 hours
5. Power supply	Batteries : 4 × LR6 (D) size batteries Car adaptor : CA-K65 AC adaptor : AD-K65
6. Connection terminals	Earphone jack : 3.5 ø mini External power jack : 6.0 V DC IN External antenna jack : 3.5 ø mini
7. Screen size	2.5 inches
8. No. of picture element	115,020 (540 × 213) dots
9. Dimensions	135 mm (H) × 91 mm (W) × 38 mm (D)
10. Weight	240 g without batteries
11. Options	AC adaptor : AD-K65 Car adaptor : CA-K65 Antenna matching device : AS-35S

Model	Color System	TV System	Channel		
TV-1800C/N	PAL	B/G, H	CCIR	VHF: 2 ~ 12 ch	UHF: 21 ~ 69 ch
TV-1800D	PAL	–/I	UK	—	UHF: 21 ~ 68 ch
TV-1800I	PAL	B/G	ITALY	VHF: A ~ H2 ch	UHF: 21 ~ 69 ch

BLOCK DIAGRAM



① — Color Tuner: TU200 TEPE5-01(TV-1800C/I/N) TU200 TEPB5-05(TV-1800D)
Selects a desired radio wave and changes it to the video IF signal.

② — Video IF Amp.: Q200 2SC4238
Amplifies the video IF signal output from the tuner TU by 10 times (20 dB).

③ — Video Det./Sound Det./FM Det./AFT/AGC: IC200 M51348FP
Eliminates the carrier wave in the video IF signal, and picks up the video signal and the sound IF signal.
Also, the sound signal is picked up from the sound IF signal by FM detection.

④ — Audio Amp.: IC600 NJM2070M
Sound amplification.

⑤ — Chroma Circuit: IC300 M52045FP
Generates the tricolor (red, green, and blue) from the video signal.

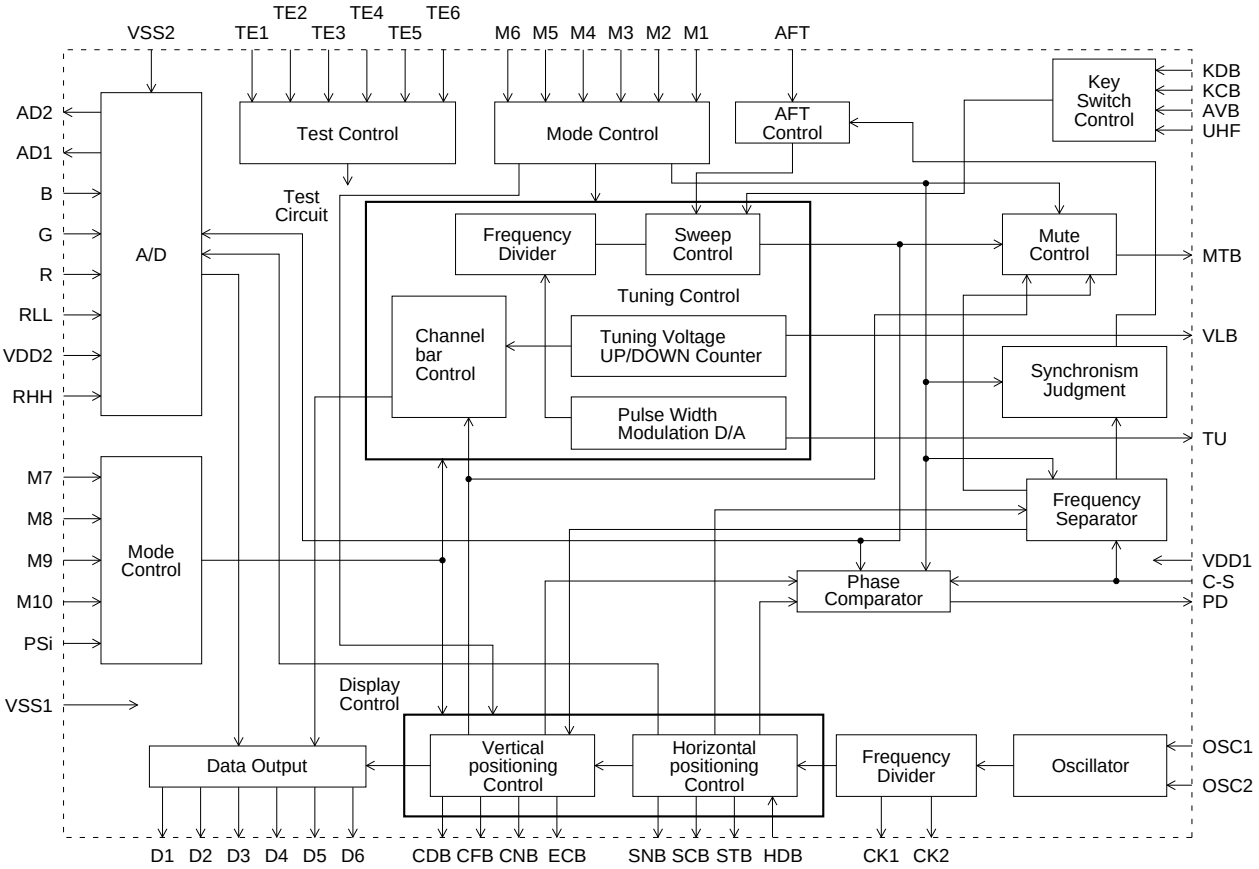
⑥ — OSC/A-D Converter/Display Control/ Auto-Tuning Control : IC700 MSM662501 GSK-640E
Converts the color signal into a digital signal.
Also, generates the clock pulse for the display and controls the display.

⑦ — Tuning Voltage Generator: IC500 MSC1169MS-K
Generates the tuning voltage with the tuning pulse (TU) output from ⑥.

⑧ — Display Voltage Generator: IC800 BA10358F, Q800 ~ Q806 Q810 Q811 2SD1149S, 2SD601A-R×3, 2SB709A-R
Generates the display voltages V0 ~ V4 with VEE1 and VCC7 outputs from the power supply.

CIRCUIT OPERATIONS

IC700

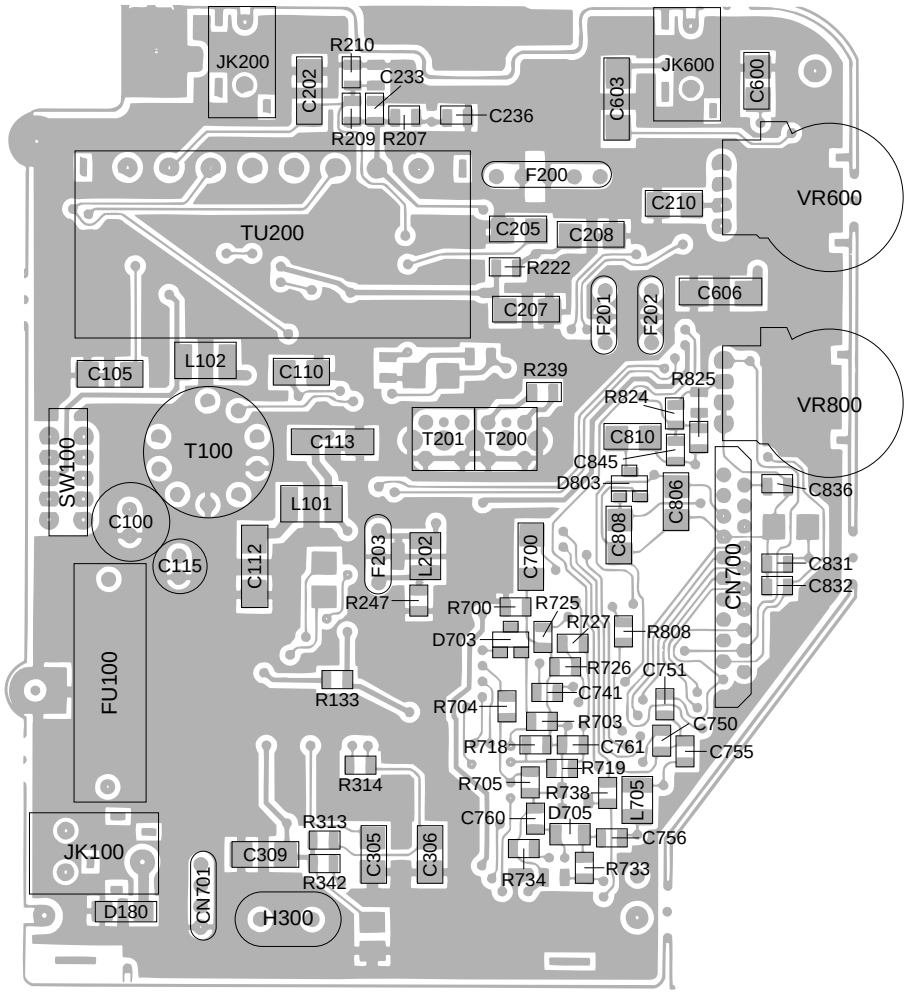


Signal Name	Function	Signal Name	Function
D1 ~ D6	Display data output terminal	MTB	Mute control terminal
SNB	Data latch signal	TU	Tuning control pulse output terminal
CDB	Scanning start signal	VLB	VHF High/Low channel select signal output terminal
CFB	Output voltage changeover signal	UHF	VHF/UHF select signal
CNB	Scanning signal shift lock signal	AVB KCB KDB	Key input terminal
SCB	Brightness modulation pulse control	AFT	AFT voltage input terminal
STB	Sampling start signal	M1 ~ M10	Mode select signal input terminal
ECB	Signal input terminal controlling the segment drive terminal to "H" during no display	TE1 ~ TE6	Test terminal
CK1, CK2	Clock pulse output terminal	R, G, B	Original color
OSC1 OSC2	Oscillator frequency control terminal	RLL	"L" level voltage input terminal of video signal
PD	Clock pulse adjustment terminal	RHH	"H" level voltage input terminal of video signal
C-S	Synchronizing pulse input terminal	PS1	Mode control signal
HDB	Horizontal synchronizing signal input terminal	VSS1	Power supply voltage input terminal
VDD1	VDD voltage input terminal		

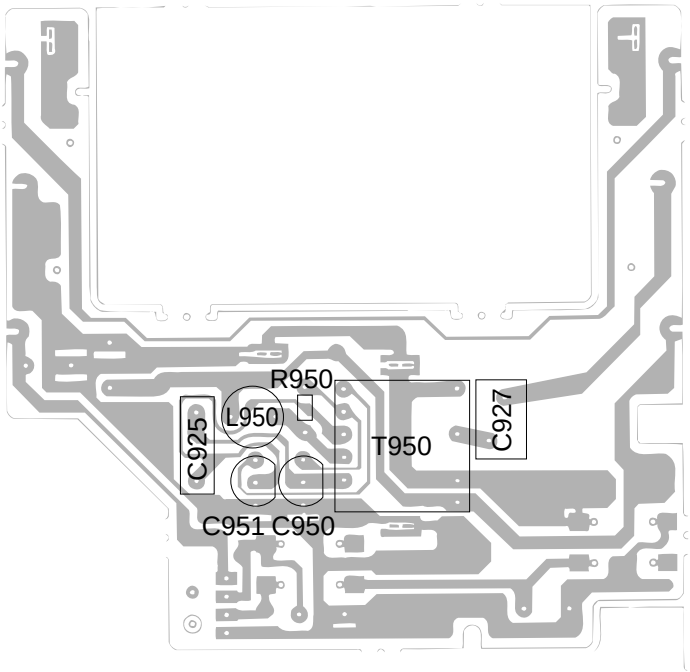
PRINTED CIRCUIT BOARDS

TOP VIEWS

Linear

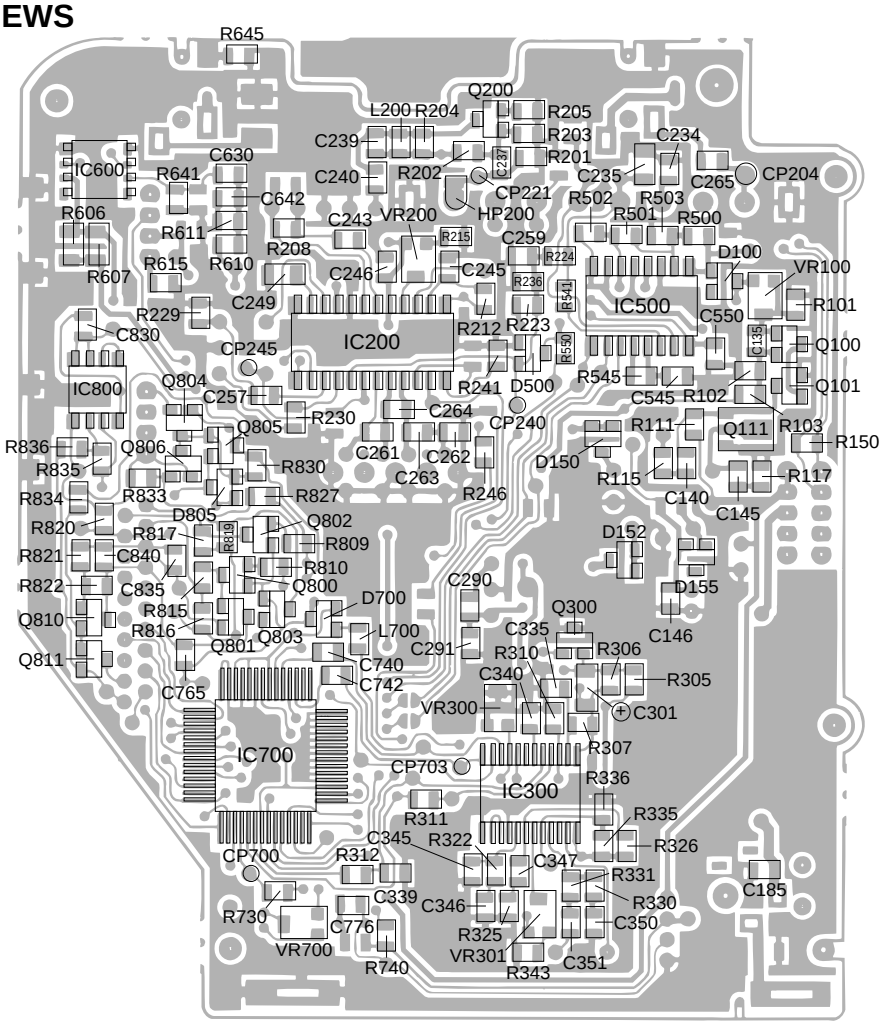


Back Light



BOTTOM VIEWS

Linear



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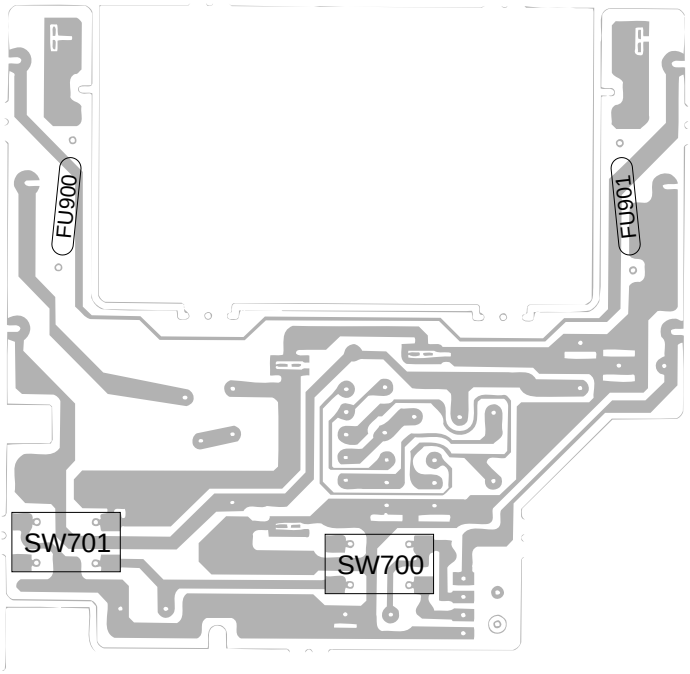


PARTS LIST

LINEAR PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	Diodes					
D100	2390 1176	Chip diode	MA152WK-(TX)	TV-1800 Common	1	C
D150	2390 1176	Chip diode	MA152WK-(TX)	TV-1800 Common	1	C
D152	2390 1176	Chip diode	MA152WK-(TX)	TV-1800 Common	1	C
D155	2390 1302	Chip diode	MA153A-(TX)	TV-1800 Common	1	C
D180	2390 2450	Chip diode	SC016-2-TE12RA	TV-1800 Common	1	C
D500	2360 1344	Chip zener diode	MA3330-M(TX)	TV-1800 Common	1	C
D700	2390 0469	Chip diode	MA157A-(TX)	TV-1800 Common	1	C
D703	2390 0469	Chip diode	MA157A-(TX)	TV-1800 Common	1	C
D705	2390 1358	Variable diode	MA329-(TX)	TV-1800 Common	1	C
D803	2390 0469	Chip diode	MA157A-(TX)	TV-1800 Common	1	C
D805	2390 1253	Chip diode	MA152WA-(TX)	TV-1800 Common	1	C
	Fuse					
FU100	3632 0245	Fuse	ATSCR0.80A	TV-1800 Common	1	B
	ICs					
IC200	2114 1827	Linear IC	M51348FP-T1	TV-1800 Common	1	C
IC300	2114 3311	Linear IC	M52045FP-T1	TV-1800 Common	1	C
IC500	2114 2842	Linear IC	MSC1169MS-KR1-620	TV-1800 Common	1	C
IC600	2114 2464	Linear IC	NJM2070M-T1	TV-1800 Common	1	C
IC700	2011 2695	LSI	MSM6625-01GSK-640E	TV-1800 Common	1	C
IC800	2116 0119	OP AMP	BA10358F-T1	TV-1800 Common	1	C
	Jacks					
JK100	3501 6846	Jack	HEC2500-010110	TV-1800 Common	1	C
JK200	3501 5439	Jack	HSJ1456-01-210	TV-1800 Common	1	C
JK600	3501 5439	Jack	HSJ1456-01-210	TV-1800 Common	1	C
	Transistors					
Q100	2210 8026	Chip transistor	2SB709A-R(TX)	TV-1800 Common	1	B
Q101	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	B
Q111	2253 0308	Chip transistor	2SD1119-R(TX)	TV-1800 Common	1	B
Q200	2252 0707	Chip transistor	2SC4238-(TX)	TV-1800 Common	1	C
Q300	2210 8026	Chip transistor	2SB709A-R(TX)	TV-1800 Common	1	C
Q800	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
Q801	2210 8026	Chip transistor	2SB709A-R(TX)	TV-1800 Common	1	C
Q802	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
Q803	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
Q804	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
Q805	2253 0476	Chip transistor	2SD1149-S(TX)	TV-1800 Common	1	C
Q806	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
Q810	2210 8026	Chip transistor	2SB709A-R(TX)	TV-1800 Common	1	C
Q811	2230 7011	Chip transistor	2SD601A-R(TX)	TV-1800 Common	1	C
	Switches					
SW100	3412 0938	Slide switch	ESD-11V231	TV-1800C/I/N	1	C
SW100	3412 1134	Slide switch	ESD-11V221	TV-1800D	1	C
	Converter					
T100	3065 0469	DC-DC converter	LC12U-31	TV-1800 Common	1	B
	Tuners					
TU200	1013 5315	Tuner	TEPE5-01	TV-1800C/I/N	1	C
TU200	1014 8570	Tuner	TEPB5-05	TV-1800D	1	C
	Variable resistors					
VR600	2765 0616	Volume	RK09H11T-10KB	TV-1800 Common	1	C
VR800	2765 1582	Volume	RK09H11T-100KB	TV-1800 Common	1	C

Notes: Q – Quantity per unit
R – Rank

BL PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	Lamp					
LA900	3851 1484	Fluorescent lamp	8.76AD1P2-CA11	TV-1800 Common	1	A
	Fuses					
FU900	3632 0308	Temperature fuse	EYP-1BF102L	TV-1800 Common	1	C
FU901	3632 0308	Temperature fuse	EYP-1BF102L	TV-1800 Common	1	C
	Transistors					
Q950	2253 0287	Chip transistor	2SD965-R	TV-1800 Common	1	B
Q951	2253 0287	Chip transistor	2SD965-R	TV-1800 Common	1	B
	Switches					
SW700	3412 1029	Switch	SKHHAL	TV-1800 Common	1	C
SW701	3412 1029	Switch	SKHHAL	TV-1800 Common	1	C
	Transformer					
T950	3012 1001	Inverter trans	NT-04	TV-1800 Common	1	B

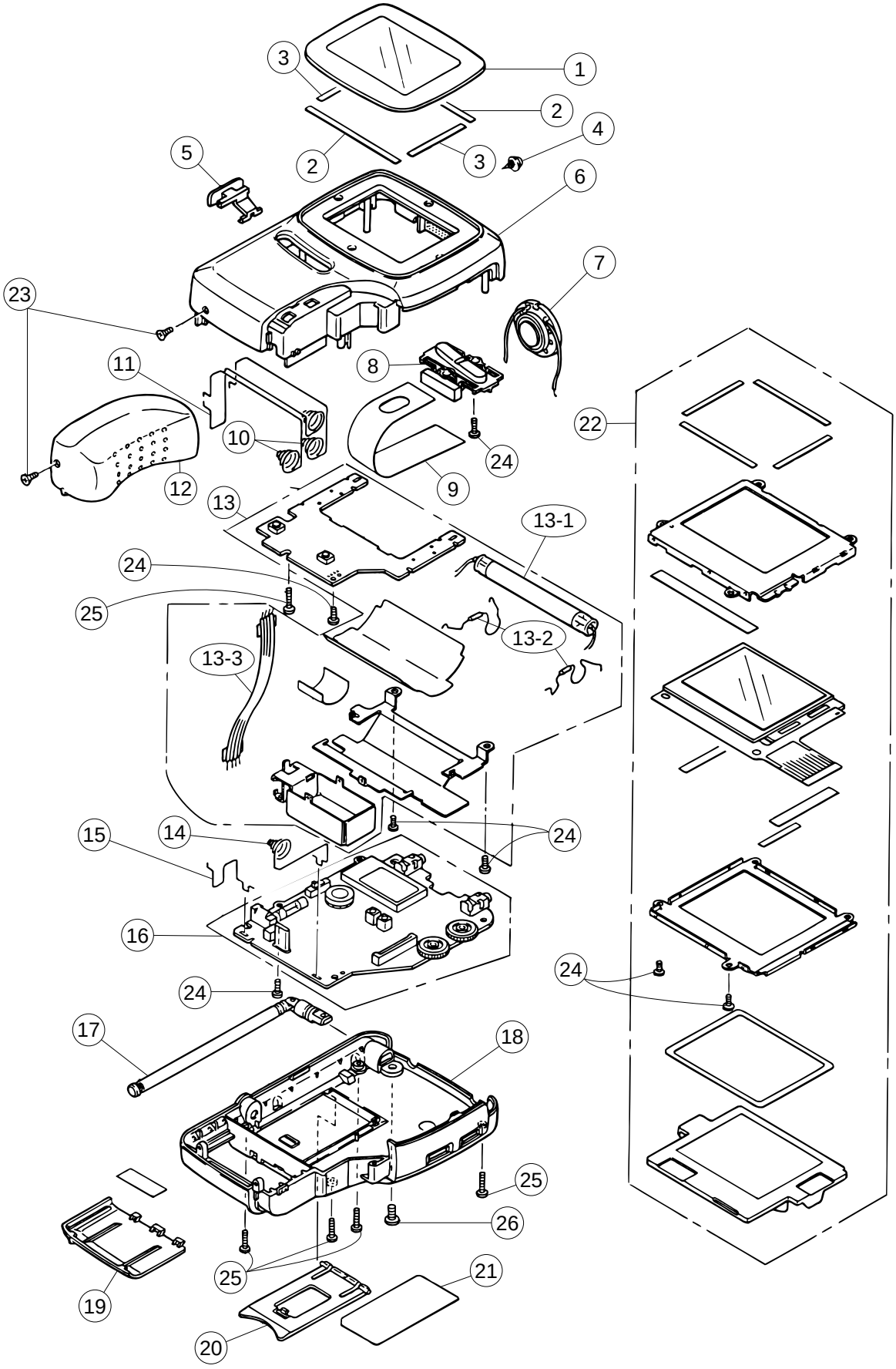
Notes: Q – Quantity per unit
R – Rank

MAIN COMPONENT

Item	Code No.	Parts Name	Specification	Applicable	Q	R
1	6611 6560	Display plate CIM-K523	K440953-2	TV-1800C	1	C
1	6611 6670	Display plate DAM-K523	K440953-3	TV-1800D	1	C
1	6611 6580	Display plate NAM-K523	K440953-4	TV-1800I/N	1	C
2	6600 2220	Adhesive tape A-K52	K451-5	TV-1800 Common	2	X
3	6608 7271	Adhesive tape B-K502	K410903A-2	TV-1800 Common	2	X
4	6609 9680	Jack cover A-K611	K340237-1	TV-1800D/I/N	1	X
5	6608 6560	Switch knob A-K526	K311299-1	TV-1800 Common	1	X
6	6611 6521	Upper case CIM-K523	K110681A-8	TV-1800C/N	1	X
6	6611 6531	Upper case DAM-K523	K110681A-9	TV-1800D	1	X
6	6611 6541	Upper case IAM-K523	K110681A-10	TV-1800I	1	X
7	3831 0854	Speaker	28-8F-03	TV-1800 Common	1	C
8	6608 6330	Tuning button A-K526	K311318-1	TV-1800 Common	1	X
9	6608 6340	Ribbon K526	K411841-1	TV-1800 Common	1	X
10	6608 6301	Battery spring C-K526	K311313A-1	TV-1800 Common	2	X
11	6608 6311	Battery spring D-K526	K311314A-1	TV-1800 Common	1	X
12	6611 6610	Side case A-K523	K110691-2	TV-1800 Common	1	X
13	6610 9432	BL ass'y	K211111B*1	TV-1800 Common	1	B
13-1	3851 1484	Fluorescent lamp	8.76AD1P2-CA11	TV-1800 Common	1	A
13-2	3632 0308	Temperature fuse	EYP-1BF102L	TV-1800 Common	2	C
13-3	6608 0170	Flat cable A-K541	K411565-1	TV-1800 Common	1	C
14	6608 6360	Battery spring A-K526	K311321-1	TV-1800 Common	1	X
15	6608 6370	Battery spring B-K526	K411830-1	TV-1800 Common	1	X
16	6611 6483	Linear PCB ass'y	K340720*2	TV-1800C/I/N	1	B
16	6611 6484	Linear PCB ass'y	K340720*3	TV-1800D	1	B
17	3851 1463	Rod antenna	VR60114FA	TV-1800 Common	1	C
18	6611 6600	Lower case BIM-K523	K110682-4	TV-1800C/D/N	1	X
18	6611 6640	Lower case IAM-K523	K110682-5	TV-1800I	1	X
19	6611 6620	Battery cover A-K523	K211023-2	TV-1800 Common	1	X
20	6611 2300	Stand A-K503	K310518-7	TV-1800 Common	1	C
21	6611 6670	Rating plate DAM-K523	K440954-4	TV-1800D	1	X
22	6611 6491	Display unit	K340722*1	TV-1800 Common	1	C
23	5860 2380	Screw	PS3 1.7X3.5 Bk	TV-1800 Common	2	C
24	5860 0420	Screw	BT3 1.7X4 Ni	TV-1800 Common	7	C
25	5860 1449	Screw	BT3 1.7X8 Bk	TV-1800 Common	5	C
26	6605 0011	Screw A-K334	K410096A-1	TV-1800 Common	1	C

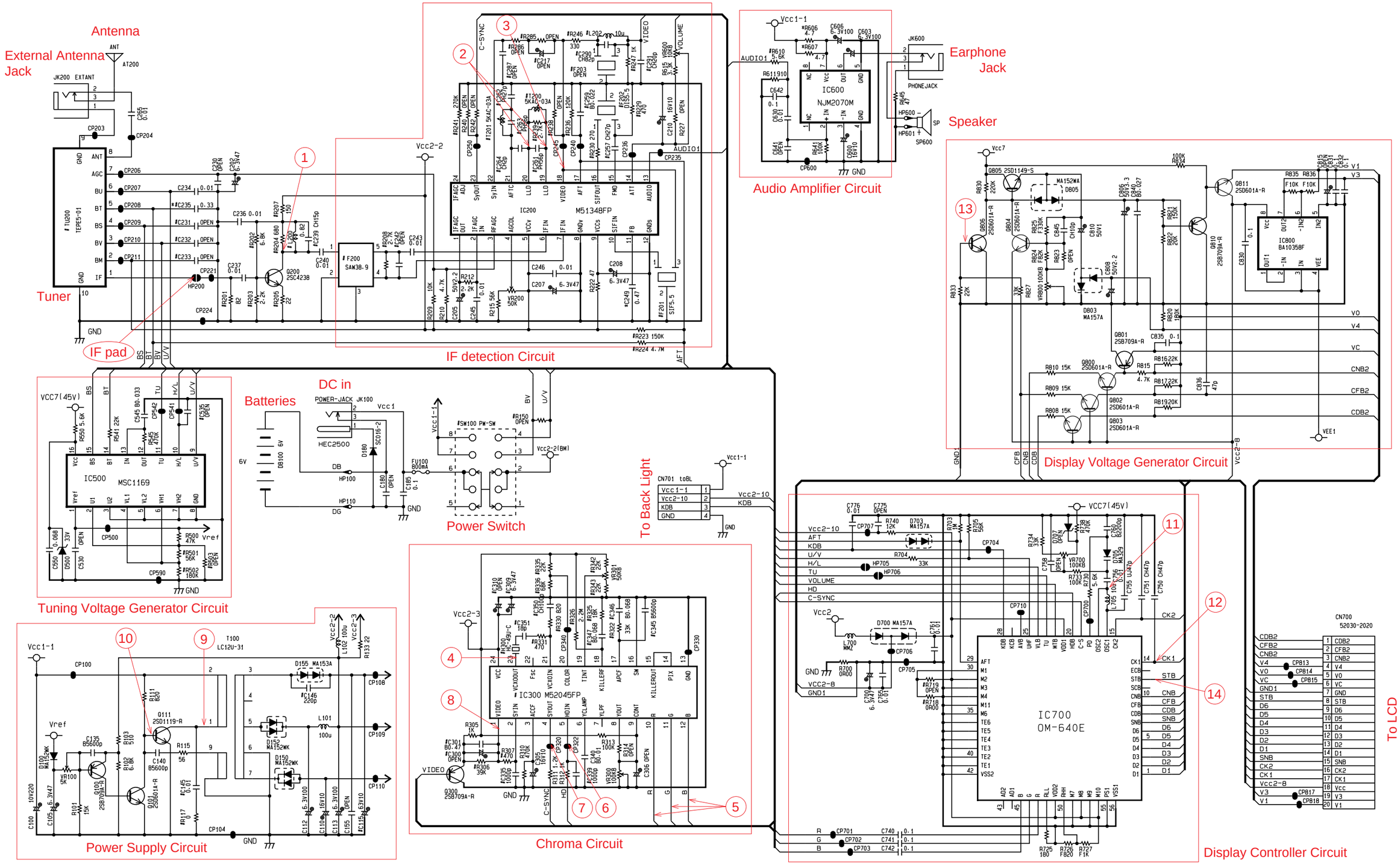
Notes: Q – Quantity per unit
R – Rank

EXPLODED VIEW

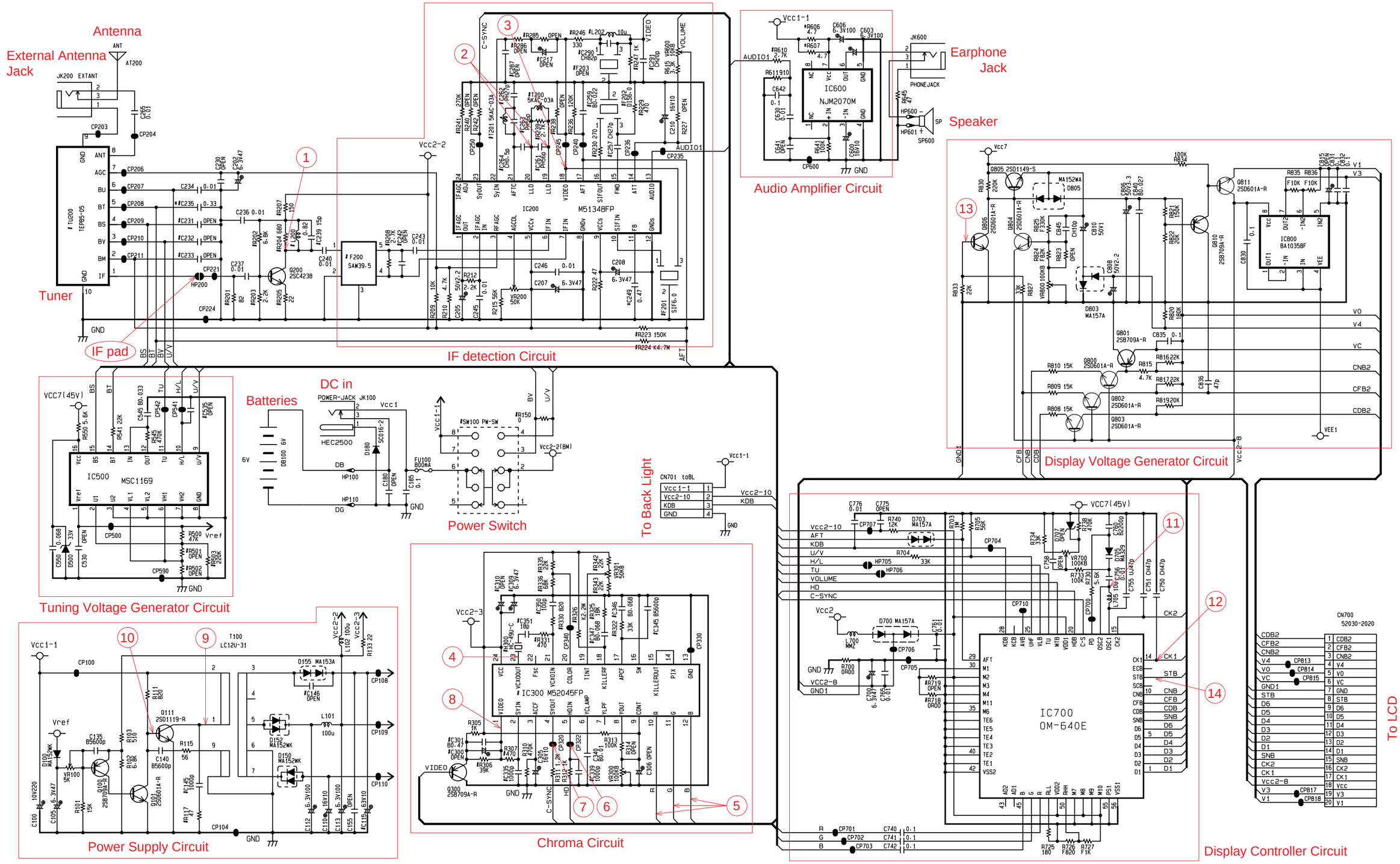


SCHEMATIC DIAGRAMS

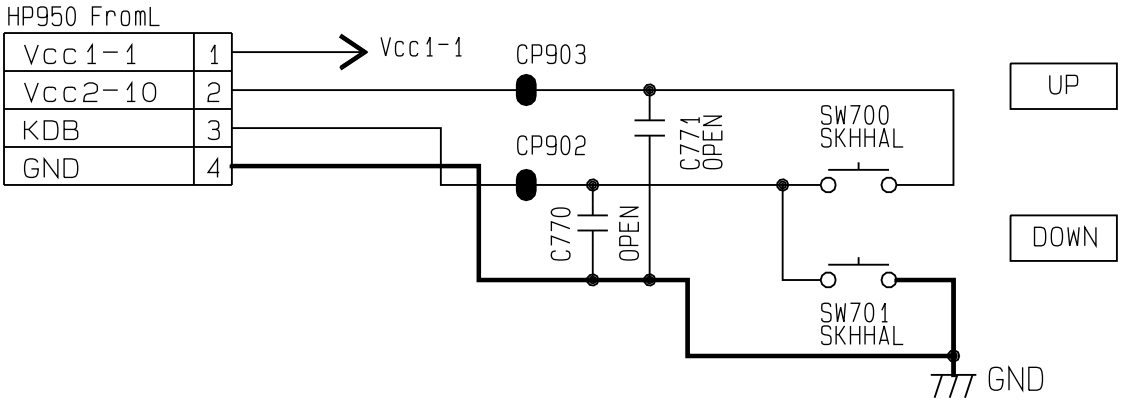
LINEAR (TV-1800C/I/N)



LINEAR (TV-1800D)



BACK LIGHT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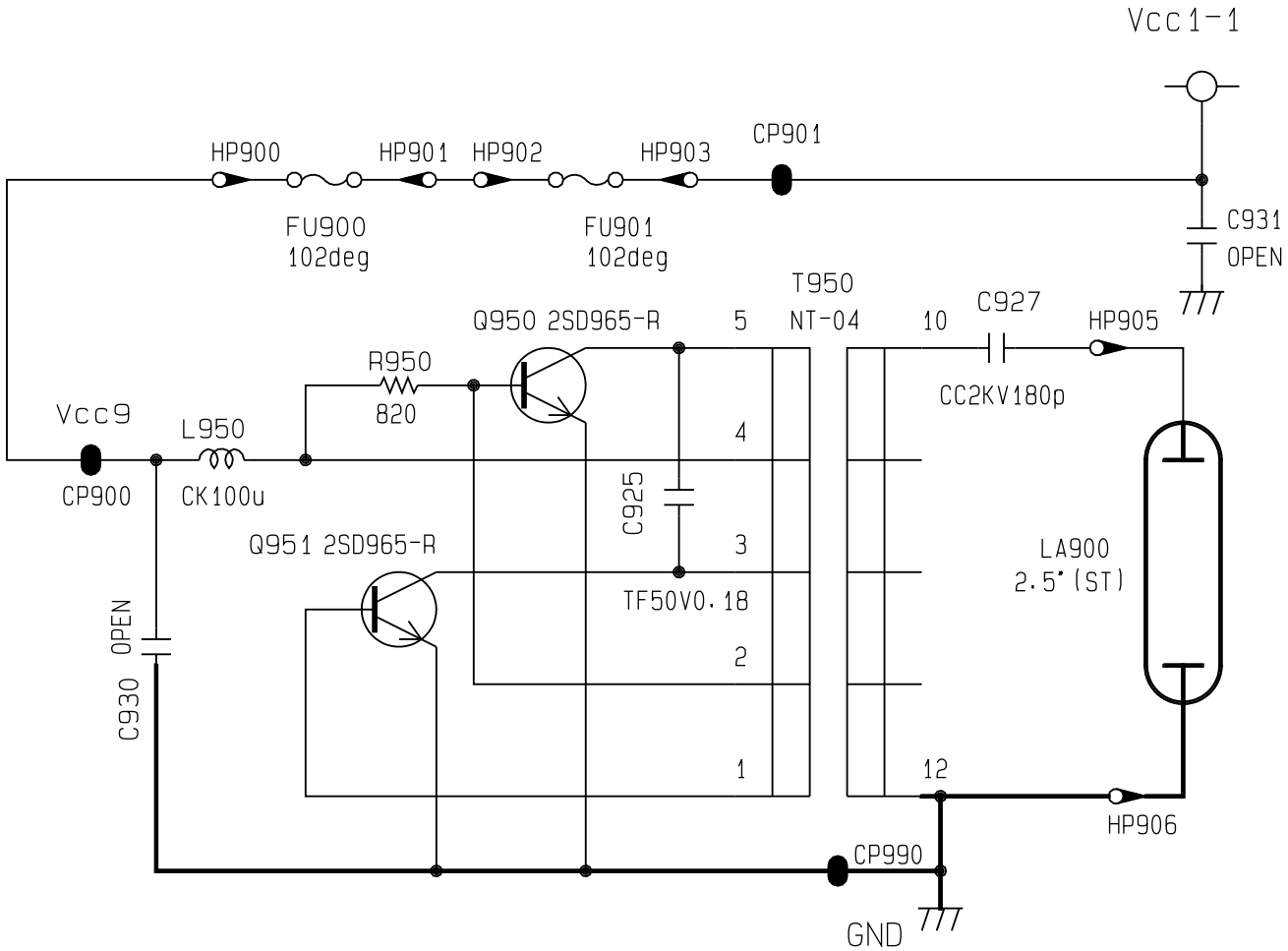
Vcc1-1 1
Vcc2-10 2
KDB 3
GND 4
Vcc1-1
CP903
CP902
C771 OPEN
C770 OPEN
SW700 SKHHAL
SW701 SKHHAL
UP
DOWN
GND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HP901
HP902
HP903
CP901
FU900 102deg
FU901 102deg
C931 OPEN
T950 NT-04
Q950 2SD965-R
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10
C927
HP905
CC2KV180p
R950 820
Vcc9
L950
CK100u
CP900
4
C925
Q951 2SD965-R
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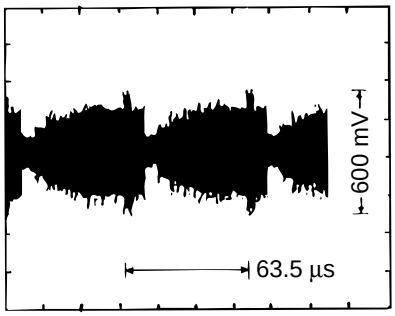
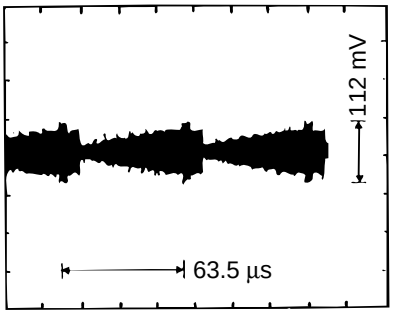
TF50V0.18
2
1
12
LA900 2.5"(ST)
C930 OPEN
HP906
CP990
GND

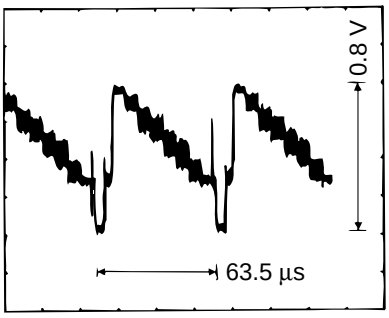
WAVEFORMS



① Q200 Collector



② IC200 Pin 19



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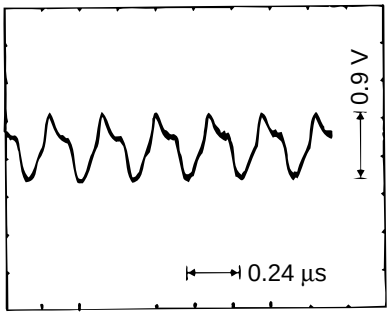
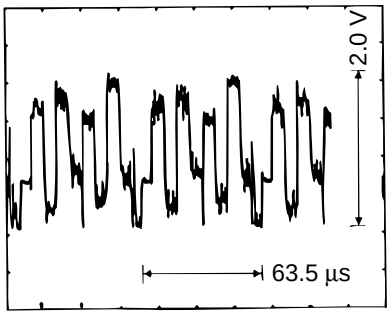
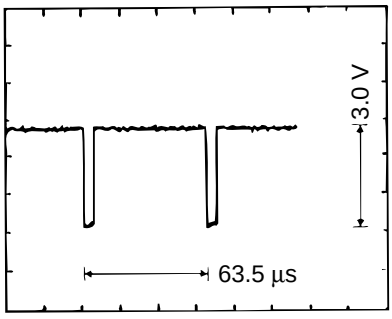


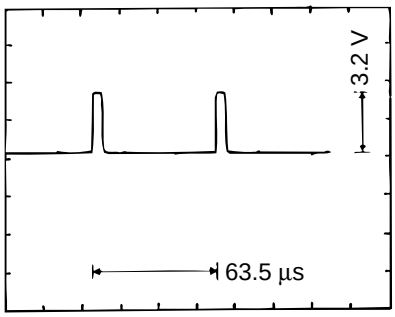
④ IC300 Pin 23



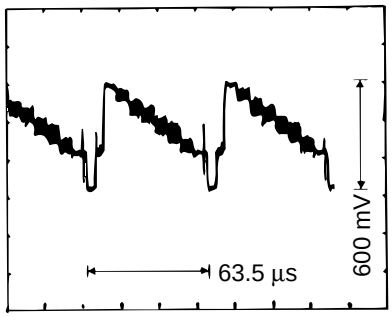
⑤ IC300 Pins 10, 11, 12



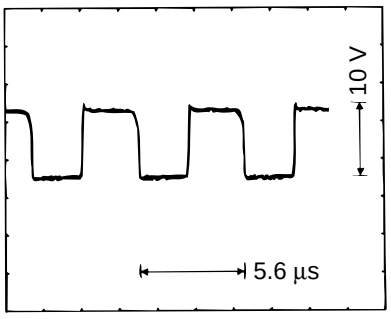
⑥ IC300 Pin 5



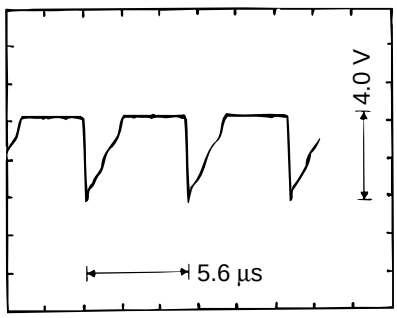
⑦ IC300 Pin 4



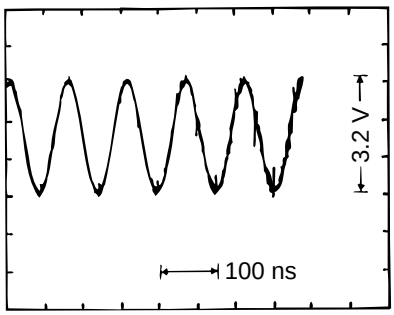
⑧ IC300 Pin 1



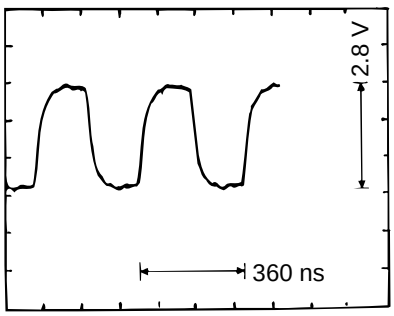
⑨ Q111 Collector



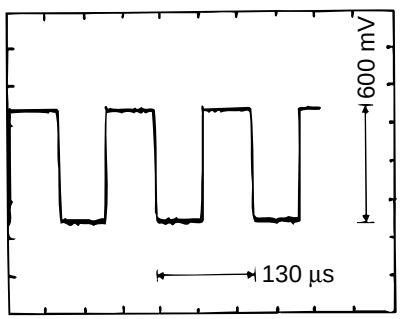
⑩ Q111 Base



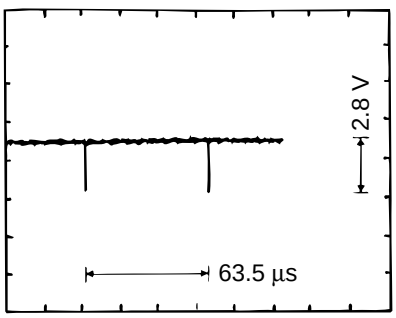
⑪ IC700 Pin 17



⑫ IC700 Pin 14



⑬ Q806 Base



⑭ IC700 Pin 12

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